SEQUENCE LISTING

<110> Bramley, John A.
      Plaut, Karen I.
      Kerr, David

<120> TREATMENT OF STAPHYLOCOCCUS INFECTIONS

<130> Mastitis

<140> 00/000,000
<141> 2002-02-28

<160> 10

<170> PatentIn Ver. 2.1

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<213> Staphylococcus simulans

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<213> Staphyloccccus simulans

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Glu Thr His Ala Ser Glu Lys Ser Asn Met Asp Val Ser Lys Lys Val
          35   40   45

Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val
      50   55   60

Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser
 65   70   75   80

Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Pro
              85   90   95

Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn
             100   105   110

Thr Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu
         115   120   125

Val Glu Thr Ser Lys Ala Leu Val Gln Asn Arg Thr Ala Leu Arg Ala
     130   135   140

Ala Thr His Glu His Ser Gln Trp Leu Asn Asn Tyr Lys Lys Gly Tyr
145   150   155   160

Gly Tyr Gly Pro Tyr Pro Leu Gly Ile Asn Gly Gly Met His Tyr Gly
              165   170   175

Val Asp Glu Phe Met Asn Ile Gly Thr Pro Val Lys Ala Ile Ser Ser
              180   185   190

Gly Lys Ile Val Glu Ala Gly Trp Ser Asn Tyr Gly Gly Gly Asn Gln
             195   200   205

Ile Gly Leu Ile Glu Asn Asp Gly Val His Arg Gln Glu Tyr Met His

                                    2

Leu Ser Lys Tyr Asn Val Lys Val Gly Asp Tyr Val Lys Ala Gly Gln
225   230   235   240

Ile Ile Gly Trp Ser Gly Ser Thr Gly Tyr Ser Thr Ala Pro His Leu
                   245   250   255

His Phe Gln Arg Met Val Asn Ser Phe Ser Asn Ser Thr Ala Gln Asp
                   260   265   270

Pro Met Pro Phe Leu Lys Ala Ser Gly Tyr Gly Lys Ala Gly Gly Thr
         275   280   285

Val Thr Pro Thr Pro Asn Thr Gly Trp Lys Thr Asn Lys Tyr Gly Thr
         290   295   300

Leu Tyr Lys Ser Glu Ser Ala Ser Phe Thr Pro Asn Thr Asp Ile Ile
305   310   315   320

Thr Arg Thr Thr Gly Pro Phe Arg Ser Met Pro Gln Ser Gly Val Leu
                   325   330   335

Lys Ala Gly Gln Thr Ile His Tyr Asp Glu Val Met Lys Gln Asp Gly
              340   345   350

His Val Trp Val Gly Tyr Thr Gly Asn Ser Gly Gln Arg Ile Tyr Leu
              355   360   365

Pro Val Arg Thr Trp Asn Lys Ser Thr Asn Thr Leu Gly Val Leu Trp
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Gly Thr Ile Lys
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<213> Staphylococcus simulans

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<213> Staphylococcus simulans

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<210> 5
<211> 480
<212> PRT
<213> Staphylococcus simulans

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<400> 5

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Leu Ser Thr Phe Ala Leu Ala Ser Ile Val Tyr Gly Gly Ile Gln Asn
             20   25   30

Glu Thr His Ala Ser Glu Lys Ser Asn Met Asp Val Ser Lys Lys Val
         35   40   45

Ala Glu Val Glu Thr Ser Lys Pro Pro Val Glu Asn Thr Ala Glu Val
     50   55   60

Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser
 65   70   75   80

Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Pro
             85   90   95

Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn
             100   105   110

Thr Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu
         115   120   125

Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr
     130   135   140

Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala
145   150   155   160

Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu
             165   170   175

Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala
             180   185   190

Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu
         195   200   205

Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys
     210   215   220

Ala Leu Val Gln Asn Arg Thr Ala Leu Arg Ala Ala Thr His Glu His
225   230   235   240

Ser Ala Gln Trp Leu Asn Asn Tyr Lys Tyr Gly Tyr Gly Tyr Gly Pro
             245   250   255

5

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Tyr Pro Leu Gly Ile Asn Gly Gly Ile His Tyr Gly Val Asp Phe Phe
        260             265             270

Met Asn Ile Gly Thr Pro Val Lys Ala Ile Ser Ser Gly Lys Ile Val
        275             280             285

Glu Ala Gly Trp Ser Asn Tyr Gly Gly Gly Asn Gln Ile Gly Leu Ile
        290             295             300

Glu Asn Asp Gly Val His Arg Gln Trp Tyr Met His Leu Ser Lys Tyr
305             310             315             320

Asn Val Lys Val Gly Asp Tyr Val Lys Ala Gly Gln Ile Ile Gly Trp
            325             330             335

Ser Gly Ser Thr Gly Tyr Ser Thr Ala Pro His Leu His Phe Gln Arg
            340             345             350

Met Val Asn Ser Phe Ser Asn Ser Thr Ala Gln Asp Pro Met Pro Phe
            355             360             365

Leu Lys Ser Ala Gly Tyr Gly Lys Ala Gly Gly Thr Val Thr Pro Thr
        370             375             380

Pro Asn Thr Gly Trp Lys Thr Asn Lys Tyr Gly Thr Leu Tyr Lys Ser
385             390             395             400

Glu Ser Ala Ser Phe Thr Pro Asn Thr Asp Ile Ile Thr Arg Thr Thr
            405             410             415

Gly Pro Phe Arg Ser Met Pro Gln Ser Gly Val Leu Lys Ala Gly Gln
            420             425             430

Thr Ile His Tyr Asp Glu Val Met Lys Gln Asp Gly His Val Trp Val
        435             440             445

Gly Tyr Thr Gly Asn Ser Gly Gln Arg Ile Tyr Leu Pro Val Arg Thr
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Trp Asn Lys Ser Thr Asn Thr Leu Gly Val Leu Trp Gly Thr Ile Lys
465             470             475             480
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<211> 492
<212> PRT
<213> Achromobacter lyticus

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            20   25   30

Glu Thr His Ala Ser Glu Lys Ser Asn Met Asp Val Ser Lys Lys Val
        35   40   45

Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val
    50   55   60

Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser
65   70   75   80

Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Pro
                85   90   95

Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn
            100   105   110

Thr Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu
        115   120   125

Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr
    130   135   140

Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala
145   150   155   160

Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu
                165   170   175

Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala
            180   185   190

Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu
        195   200   205

Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys
    210   215   220

Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Leu Val

Gln Arg Thr Ala Leu Arg Ala Ala Thr His Glu His Ser Ala Gln Trp
                    245   250   255

Leu Asn Asn Tyr Lys Lys Gly Tyr Gly Tyr Gly Pro Tyr Pro Leu Gly
                    260   265   270

Ile Asn Gly Gly Met His Tyr Gly Val Asp Phe Phe Met Asn Ile Gly
                    275   280   285

Thr Pro Val Lys Ala Ile Ser Ser Gly Lys Ile Val Glu Ala Gly Trp
        290   295   300

Ser Asn Tyr Gly Gly Gly Asn Gln Ile Gly Leu Ile Glu Asn Asp Gly
305   310   315   320

Val His Arg Gln Trp Tyr Met His Leu Ser Lys Tyr Asn Val Lys Val
                    325   330   335

Gly Asp Tyr Val Lys Ala Gly Gln Ile Ile Gly Trp Ser Gly Ser Thr
                    340   345   350

Gly Tyr Ser Thr Ala Pro His Leu His Phe Gln Arg Met Val Asn Ser
            355   360   365

Phe Ser Asn Ser Thr Ala Gln Asp Pro Met Pro Phe Leu Lys Ser Ala
            370   375   380

Gly Tyr Gly Lys Ala Gly Gly Thr Val Thr Pro Thr Pro Asn Thr Gly
385   390   395   400

Trp Lys Thr Asn Lys Tyr Gly Thr Leu Tyr Lys Ser Glu Ser Ala Ser
                    405   410   415

Phe Thr Pro Asn Thr Asp Ile Ile Thr Arg Thr Thr Gly Pro Phe Arg
            420   425   430

Ser Met Pro Gln Ser Gly Val Leu Lys Ala Gly Gln Thr Ile His Tyr
            435   440   445

Asp Glu Val Met Lys Gln Asp Gly His Val Trp Val Gly Tyr Thr Gly
        450   455   460

Asn Ser Gly Gln Arg Ile Tyr Leu Pro Val Arg Thr Trp Asn Lys Ser
465   470   475   480

Thr Asn Thr Leu Gly Val Leu Trp Gly Thr Ile Lys

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<211> 741
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: altered S.
      simulans lysostaphin gene

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<210> 8
<211> 480
<212> PRT
<213> Staphylococcus simulans

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Leu Ser Thr Phe Ala Leu Ala Ser Ile Val Tyr Gly Gly Ile Gln Asn
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Glu Thr His Ala Ser Glu Lys Ser Asn Met Asp Val Ser Lys Lys Val
        35   40   45

Ala Glu Val Glu Thr Ser Lys Pro Pro Val Glu Asn Thr Ala Glu Val
    50   55   60

Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser
65   70   75   80

Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Pro
                85   90   95

Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn
            100   105   110

Thr Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu
            115   120   125

Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr
        130   135   140

Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala
145   150   155   160

Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu
                165   170   175

Asn Thr Ala Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala
            180   185   190

Glu Val Glu Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu
        195   200   205

Thr Ser Lys Ala Pro Val Glu Asn Thr Ala Glu Val Glu Thr Ser Lys
    210   215   220

Ala Leu Val Gln Asn Arg Thr Ala Leu Arg Ala Ala Thr His Glu His
225   230   235   240

Ser Ala Gln Trp Leu Asn Asn Tyr Lys Tyr Gly Tyr Gly Tyr Gly Pro
                245   250   255

Tyr Pro Leu Gly Ile Asn Gly Gly Ile His Tyr Gly Val Asp Phe Phe
            260   265   270

Met Asn Ile Gly Thr Pro Val Lys Ala Ile Ser Ser Gly Lys Ile Val
            275   280   285

Glu Ala Gly Trp Ser Asn Tyr Gly Gly Gly Asn Gln Ile Gly Leu Ile
    290   295   300

Glu Asn Asp Gly Val His Arg Gln Trp Tyr Met His Leu Ser Lys Tyr
305   310   315   320

Asn Val Lys Val Gly Asp Tyr Val Lys Ala Gly Gln Ile Ile Gly Trp
            325   330   335

10

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Ser Gly Ser Thr Gly Tyr Ser Thr Ala Pro His Leu His Phe Gln Arg
            340                 345             350

Met Val Asn Ser Phe Ser Asn Ser Thr Ala Gln Asp Pro Met Pro Phe
            355                 360             365

Leu Lys Ser Ala Gly Tyr Gly Lys Ala Gly Gly Thr Val Thr Pro Thr
    370                 375             380

Pro Asn Thr Gly Trp Lys Thr Asn Lys Tyr Gly Thr Leu Tyr Lys Ser
385                 390             395                 400

Glu Ser Ala Ser Phe Thr Pro Asn Thr Asp Ile Ile Thr Arg Thr Thr
            405                 410                 415

Gly Pro Phe Arg Ser Met Pro Gln Ser Gly Val Leu Lys Ala Gly Gln
            420                 425             430

Thr Ile His Tyr Asp Glu Val Met Lys Gln Asp Gly His Val Trp Val
            435                 440             445

Gly Tyr Thr Gly Asn Ser Gly Gln Arg Ile Tyr Leu Pro Val Arg Thr
    450                 455             460

Trp Asn Lys Ser Thr Asn Thr Leu Gly Val Leu Trp Gly Thr Ile Lys
465                 470             475                 480
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<211> 1825
<212> DNA
<213> Staphylococcus simulans

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aaagctccag tagaaaatac agctgaagta gagacttcaa aagctccagt agaaaataca 480
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gtagagactt caaaagcccc agtagaaaat acagctgaag tagagacttc aaaagctcca 780
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<212> DNA
<213> Achromobacter lyticus

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12

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13

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